

Nuclear Division News



A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 7, No. 25/December 9, 1976

Denton to succeed Elkins as Division Finance Manager



James K. Denton



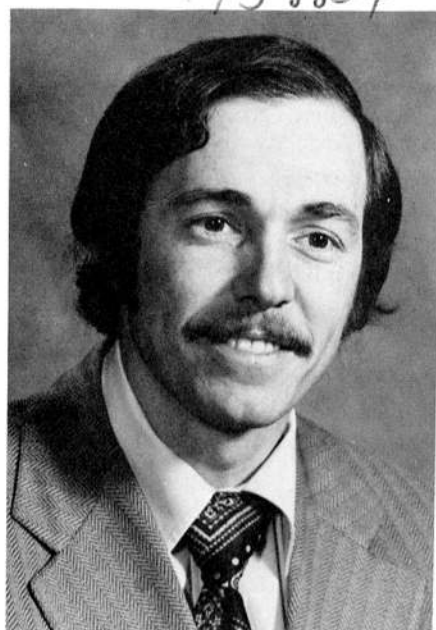
J. Alton Elkins

Gary Riser named manager of General Accounting

The appointment of Gary A. Riser as Manager of General Accounting for the Nuclear Division, has been announced by Roger F. Hibbs, Division President.

Riser succeeds James K. Denton, who is appointed Manager of Finance.

A native of White Plains, N.Y., Riser attended Norwich University in Vermont.



Gary A. Riser

mont and, in 1964, received a bachelor of science degree in industrial engineering from Pennsylvania State University.

He worked for a short period with IBM in Mansfield, Ohio, following which he attended Ohio University and Ohio State University where he received his master's degree in business administration. He is a Certified Public Accountant.

Riser joined the Nuclear Division in 1967 and was assigned to the Atomic Energy Combined Operations Planning (AECOP) where he performed analytical studies. In 1971 he was transferred to the Auditing Division, and the following year was named Manager of Auditing. In 1975 he transferred to Oak Ridge National Laboratory with responsibilities in the areas of budget and accounting.

Active in community affairs, he is advisor to a Junior Achievement Company in Oak Ridge, a member of the National Ski Patrol and a member of the Board of Directors of the Oak Ridge Red Cross.

Riser is married to the former Marcia Dickinson, also of White Plains. They and their children, Gregory and Gretchen, live at 40 Montclair Road, Oak Ridge.

The appointment of James K. Denton as Manager of Finance for the Nuclear Division has been announced by Roger F. Hibbs, Division President.

Denton succeeds J. Alton Elkins, who will retire early in 1977 after more than 31 years company service.

In announcing the new appointment, Hibbs paid special tribute to Elkins. "For more than 30 years, Mr. Elkins has performed outstanding service as a member of the staff of the Nuclear Division," Hibbs said. "I want to officially recognize the very high-level contributions he has made to our programs."

Began as materials manager

A native of Little Rock, Ark., Elkins attended the University of Colorado and the University of Arkansas where he majored in finance and business administration. Before coming to Oak Ridge in 1944 as manager of purchasing, traffic, stores, receiving and shipping for Ford, Bacon and Davis, Engineers, he was in the investment banking business in Little Rock.

Elkins joined Union Carbide in 1945 as Manager of Materials at ORGDP. He supervised establishment of the Carbide materials management system at Y-12 and assisted in establishment of a similar system at ORNL.

Prior to his appointment as Assistant General Manager of Finance and Accounting in Oak Ridge, he served as Manager of Materials, Purchasing, Finance and Accounting at PGDP. He was named General Pur-

chasing Agent for the Nuclear Division in April, 1957, a position he held until 1970 when he was appointed Manager of Finance for the Nuclear Division. In this position he has been responsible for the activities of the Central Accounting, Purchasing, and Auditing Divisions.

Elkins is married to the former Lisa Klein, Palo Alto, Calif. They live at 102 Ogden Lane, Oak Ridge.

Denton 25-year employee

Denton, who has 25 years of service with the Nuclear Division, is a native of Sweetwater, Tenn. He was graduated from Tennessee Wesleyan College and has done graduate work at the University of Tennessee, East Tennessee State University and LaSalle Extension University.

Denton joined Union Carbide in 1951. Over the years he was appointed to positions of increasing responsibility. In 1969 he was named Superintendent of Finance and Budget at the Oak Ridge Y-12 Plant, and two years later was named Manager of the General Accounting Division for the Nuclear Division.

Active in community affairs, Denton has been a member of the Monroe County Primary Board. He also is a member of the International Order of Odd Fellows and the Masonic Order.

Denton and his wife, the former Josephine Howard, also of Sweetwater, live at 402 Broad St., Sweetwater. They have three daughters: Deborah, Donna and Denise.

inside ...

The "jolly old elf" will brighten the season for Union Carbide children at the four Nuclear Division plants ... Saturday, December 11 at Paducah ... and Wednesday, December 22 at Oak Ridge High School. Another application for employees in the Oak Ridge area appears on page 6.

Other features in this issue:

- Promotions page 2
- Busy mailwoman page 3
- Sites considered for nuclear wastes page 4
- Medicine Chest page 7



Lewis appointed affirmative action coordinator at ORNL



Lynda R. Lewis

The appointment of Lynda R. Lewis as affirmative action coordinator for ORNL has been announced by Herman Postma, Laboratory Director. She succeeds Joanne Gailar, who recently was named head of the Equal Employment Opportunities Program for the Nuclear Division.

In her new position, Lewis will work with ORNL management and

representatives from each division in developing and implementing annual affirmative action goals. She also will assist the EEO coordinator in carrying out Division-wide objectives relative to equal employment opportunities.

Prior to joining ORNL as a library specialist in 1974, Lewis worked part-time as a circulation clerk with Lawson-McGhee Library in Knoxville. She served as head of the reference section of the Central Research Library from October, 1975, until she recently accepted a full-time assignment on the Laboratory's Program Planning and Analysis staff. She had worked with the Planning Group on a parttime basis since November, 1975.

A native of Indianola, Miss., Lewis attended Tennessee A&I (now Tennessee State) University. She received her master's degree in library science from the University of Tennessee, Knoxville.

Lewis is a member of the Southeastern Library Association and the Special Library Association, and is on the Board of Directors for the ORNL Employees' Federal Credit Union. She and her husband, James, reside at 214 West Vanderbilt Avenue, Oak Ridge.

Y-12 tells seven promotions



Gadd 170686 Limburg 170687 Linginfelter 170688 Lovitt 170689



Martin 170690 McIlwain 170691 Wright 170692

Seven recent promotions are announced at the Y-12 Plant. John E. Gadd has been named a planner-estimator in the Fabrication Division; James A. Limburg a supervisor; Carl H. Linginfelter, and Alvie C. Lovitt, planner-estimators; James R. Martin, a supervisor in Metal Preparation; Robert L. McIlwain, a machine tool specialist, and Robert C. Wright, a planner-estimator, both in the Fabrication Division.

Gadd, a native of Cuyahoga Falls, Ohio, attended the University of Florida and the University of Tennessee before joining Union Carbide 10 years ago.

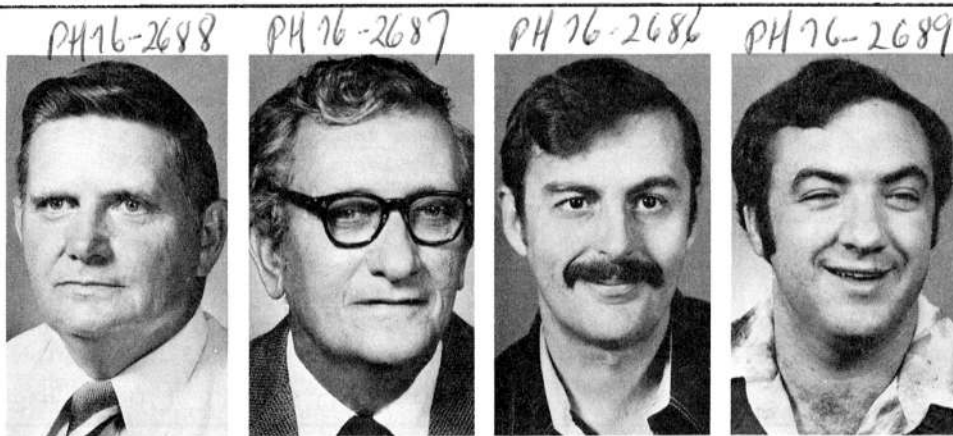
Married to the former Shirley Ann Pitt, Gadd lives at Route 4, Clinton. The Gadds have four children, John, Michael, James and Elizabeth.

Limburg, who was born in Rockwood, served 21 years in the U.S. Air Force before joining Union Carbide seven years ago.

He and his wife, the former Elsie M. Beason, live at Route 4, Kingston. They have three children, Keith, James and Teresa.

Linginfelter joined Union Carbide in 1969, after working with the Caterpillar Tractor Company. He is a native of Blount County, Tenn.

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Brown Breeding Stallo Stevens

Breeding, Brown, Stallo, Stevens, Witherspoon promoted at ORGDP

Five promotions have been announced at the ORGDP. James E. Breeding has been named a supervisor in Operations; Willard Brown and Michael L. Stallo are new supervisors in the Fabrication and Maintenance Division; and Ralph E. Stevens and Carl J. Witherspoon are new barrier supervisors in Barrier Manufacturing.



Witherspoon

Breeding, a native of Tazewell, has been at ORGDP 31 years. Before joining Union Carbide he served in the U.S. Army during World War II.

He lives at 501 Race Street, Kingston, with his wife, the former Dovie Gideon. They have two sons, David and Philip and a daughter, Susan B. Herrin.

Brown, who was born in Lenoir City, has been with Union Carbide 28 years. Prior to that time he worked with the Scriber Engineering Co. and served in the U.S. Army.

Mrs. Brown is the former Betty Bright and they live at Route 4, Lenoir City. They have a son, Kenneth.

Stallo, a native of Huntington, W. Va., has been at ORGDP three years. He attended the Universities of Tennessee, Virginia, and Maryland, and worked at ORTEC before joining Union Carbide.

He and his wife, Shirley, live at 107 Euclid Place, Oak Ridge. They have a son, Michael.

Stevens was born at Roane Mountain, but grew up in Oak Ridge. He attended Middle Tennessee State University, and served four years in the U.S. Air Force. He joined Union Carbide at the Y-12 Plant six years ago, transferring to ORGDP three years ago.

Mrs. Stevens is the former Brenda Jones, and the couple lives at Route 3, Clinton. They have two children, Richard and Cristal.

Witherspoon was born in Columbia, Miss., but grew up in Knoxville. He was employed at Jim Robbins Seat Belt Company before joining Union Carbide two years ago. He is a graduate of Lees McRae Junior College, and is presently attending the University of Tennessee.

His wife is the former Kathryn Scaife and they live at 135 East Vance Road, Oak Ridge.

division deaths

Ralph E. Humphries, Y-12's Tool Grinding Department, died November 29 in a Knoxville hospital. A native of Knoxville, Mr. Humphries joined Union Carbide in 1954. He was a veteran of the U.S. Navy, serving in the Pacific during World War II.

Survivors include his wife, Jerry Ferrick Humphries, 417 East Springdale Avenue, Knoxville; two daughters, Donna Martin and Connie Jones; two grandsons; his parents, Mr. and Mrs. William A. Humphries; four brothers, Herbert, Kenneth, Glenn and William Humphries; and two sisters, Mildred Lakins and Clara Mae Lakins.

Funeral services were held at the Holy Ghost Catholic Church with interment in the Greenwood Cemetery.

Bobbie Steele, A Wing Shops, Y-12, died November 22 at his home at 198 South Benedict Avenue, Oak Ridge.

A native of Mississippi, Mr. Steele joined Union Carbide in 1952.

Survivors include his wife, Dorothy Strickland Steele; three daughters, Valeria, Connie and Diane, a son, Barry Steele; four sisters, Louise Mills, Willie May Young, Clara Payne and Roena Atkinson; and six brothers, Jerry, Hugh, Early, Fred and Sinas Steele.

Services were held at the Oak Valley Baptist Church. Burial was in the Oak Ridge Memorial Park.

Garvin R. Stephenson, a supervisor in the Assembly Division at the Y-12 Plant, died November 21 at his Route 2, Dutch Valley Road, home. A native of Chester, S.C., he came to Oak Ridge during its construction, working first at the Oak Ridge Gaseous Diffusion Plant. He later transferred to the Y-12 Plant.

Survivors include his wife, Lillian Peay Stephenson; two sons,



Mr. Stephenson

(Please turn to page 8)

about people...



Fraas

Lotts

Rosenthal

Scott

Wymer

Four ORNL staff members and one recent retiree have been elected Fellows in the American Nuclear Society.

Arthur P. Fraas, who retired as head of the high temperature power conversion systems section in ORNL's Energy Division last month, has been with the Nuclear Division since 1950 and was formerly an associate director of the Reactor Division (now Engineering Technology).

A. L. "Pete" Lotts has been with ORNL's Metals and Ceramics Division since 1959. He is manager of ORNL's Thorium Utilization Program, associate director of the ORNL Gas-Cooled Reactor Programs and manager of Gas-Cooled Reactor Programs for the Metals and Ceramics Division.

Murray W. Rosenthal, associate director for advanced energy systems at ORNL, has been with the Laboratory since 1953. He directed the molten salt reactor program from 1966 until 1973, when he was named to his present position.

James L. Scott, an ORNL employee since 1956, is on the staff of the Metals and Ceramics Division, where he is manager of the Magnetic Fusion Energy Materials Program.

Raymond G. Wymer is associate director of the Chemical Technology Division. He joined the Nuclear Division in 1953, leaving in 1956 to hold positions with Georgia Institute of Technology and Industrial Reactor Labs, Inc., in New Jersey, and returned in 1959.

The awards will be presented next June at the ANS' annual meeting in New York.

* * *

Frederick de Serres, who formerly served as coordinator of the Environmental Mutagenesis Program in ORNL's Biology Division, has been appointed associate director for genetics at the National Institute of Environmental Health Sciences. De Serres came to the Nuclear Division in 1955 and joined NIEHS in 1972.

* * *

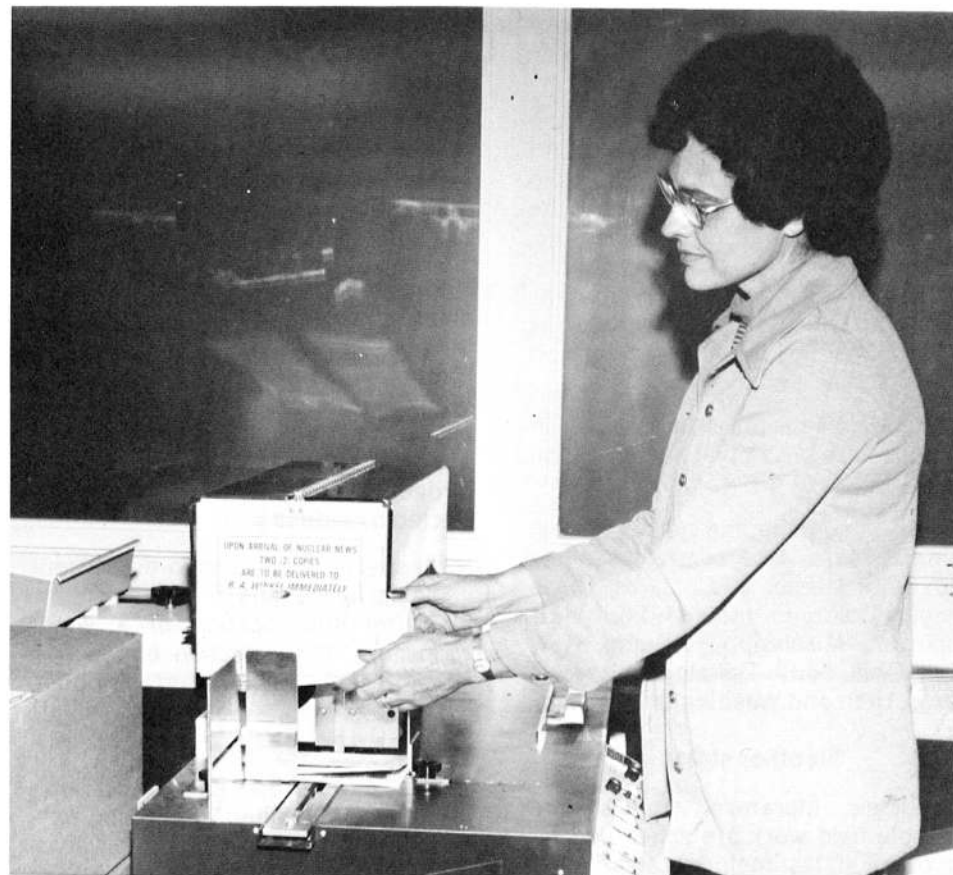


Aaron

W. Scott Aaron, Solid State Division at ORNL, has received an award from the Wire Foundation for a paper he wrote as an undergraduate entitled "Optimum Stress-Relieving Treatments for Stainless Steel Brush Springs." Aaron, who came to ORNL in September, 1976, is in Solid State's Isotope Research Materials Laboratory. He received his master's degree in November from Penn State University.

* * *

James C. Bresee, former director of ORNL's Civil Defense Research Project (now the Emergency Technology Department of the Health Physics Division) has been named director of the Division of Geothermal Energy for ERDA. He had been acting director of the Division since last July.



Wearing one of her many "mail room hats," Virginia Bullock helps out by running copies of Nuclear Division News through the labeling machine.

As ORGDP's mail room chief

Letters... she gets letters

When Virginia Bullock gets to work at ORGDP each day, she goes into her office in K-1001 and sits down behind the desk. But she generally doesn't stay there long.

Adjacent to her office, via a connecting door, is ORGDP's mail room, bustling with activity as soon as the day begins. And Bullock, as chief mail of mail services in the Office Services Department of the Finance, Materials and Services Division, can usually be found square in the middle of it all, answering questions, directing activities, and lending a helping hand wherever one is needed.

Bullock finds it difficult to describe her job in a few words, or even a few sentences. "I do so many different kinds of things, it's hard to tell about them all at one time," she says. Basically, though, her duties fall into two broad categories: directing the mailroom staff, and seeing to it that ORGDP's mail comes in and goes out without a hitch.

It's hard to find a time when something isn't going on in the mail room. Four times a day, a courier leaves ORGDP with mail for ORNL, Y-12, the Federal Office Building, General Purchasing and the post office. Twice a day, couriers head in different directions to cover their assigned routes within ORGDP, delivering incoming and picking up outgoing mail. In the midst of it all, workers are sorting, labeling, weighing, metering and keeping up mail registers. And as if that weren't enough to keep everyone more than busy, the facsimile machine falls within the mail room's domain also.

Bullock's pride in the mail room's staff and operation is evident as she guides visitors on a brief tour. Organization is the watchword here: the chaos one might expect in a mail

room serving more than 5,600 employees simply doesn't exist.

"We used to have just a trough for the mail and a center working space," Bullock says. "Two people could hardly work in it. Since the remodeling it's so much more convenient."

In the center of the "new" mail room stand six large shelf units, each brightly painted a different color and filled with cubbyholes for holding mail. "Each color represents a different route, and each separate cubbyhole holds mail for one mail stop on the route—about 300 for the entire plant," Bullock explains.

On one day in each quarter of the year, Bullock and her staff count every piece of mail they handle, for estimating purposes. The most recent quarterly count turned up 44,992 pieces of inter-plant mail and 305,216 intra-plant pieces—a lot of mail by anyone's reckoning. ORGDP mails payroll checks to hourly, weekly and monthly salaried employees at all four plants, and handles many other four-plant mailings besides.

Bullock (whose daughter, Dianna Edwards, is a chemical operator at ORGDP) lives at Route 2, Harriman. After working for Burlington Hosiery Mill in Harriman, she came to the mail room in 1951, but was there only a month before moving to join the traffic section. In 1958 she returned, and for 18 years now she has been instrumental in seeing to it that "neither rain, nor snow" nor anything else prevents the proper handling of ORGDP's mail.

Cold weather energy-saver

For comfort in cooler indoor temperatures use the best insulation of all—warm clothing.

Savings Plan-Personal Investment Account

Recent unit values:

	Fixed Income Fund	UCC Stock	Equity Investment Fund
August 73	10.0000	34.7688	10.0000
December 73	10.2444	31.8170	9.3602
December 74	11.0438	40.3009	6.4354
December 75	11.9880	58.7886	7.8231
August 76	12.6898	64.0878	8.6330
September 76	12.7800	64.2020	8.8021
October 76	12.8706	60.0703	8.5837

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 8.85% for 1976. Union Carbide stock values are the average cost of stock purchases during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. Dividing the total value by the number of units in the fund establishes the month's unit values—and the price at which new units are added that month.

Deep underground formations studied for storage sites

Plans are now moving ahead for the expanded study of deep underground formations within the United States to gather preliminary data on the suitability of geologic disposal for safe, terminal storage of commercial nuclear wastes. The Nuclear Division's Office of Waste Isolation is providing program management and technical direction for this activity.

As part of the program, studies in 36 states are scheduled as part of the fiscal year 1977 program.

Field work, including core drilling in some cases, will be conducted along with other studies in 13 states. These include Colorado, Indiana, Louisiana, Michigan, Mississippi, Nevada, New York, Ohio, South Dakota, Tennessee, Texas, Utah and Washington.

Six other states

Geologic literature studies and possible field work are scheduled for six other states. Included are Illinois, Minnesota, North Dakota, Oklahoma, South Carolina and Wisconsin.

Lastly, geologic literature studies only will be pursued in 17 states. These are Alabama, Arizona, Connecticut, Florida, Georgia, Maine, Maryland, Massachusetts, Missouri, Montana, Nebraska, New Hampshire, North Carolina, Pennsylvania, Vermont, Virginia and Wyoming.

At present, nuclear energy generates about nine percent of the electricity used in the United States. This is expected to increase to about 20-25 percent by 1985. With nuclear power such an integral part of the

electric utility industry's plans, the timely construction of radioactive waste repositories is vital.

OWI responsibility

In order to gather preliminary data on the suitability of various formations for a waste repository, proposals will be sought this month to conduct work. While the Office of Waste Isolation has overall responsibility for the activity, approximately 85 percent of the OWI budget will go for field work conducted by industry.

No specific areas within the various geologic formations have been identified for the location of a waste repository. The selection of the first two areas for detailed study as potential storage sites is not expected to be completed before the end of 1978.

The expanded geologic study program is designed to proceed on a phased basis, enlisting support from local and state officials and from federal agencies. An important aspect of the program will be public information meetings to discuss the scope of activities in various areas.

Site selection

A particular site selection project will be terminated if the state raises issues on the project, connected with selection criteria and their application, that are not resolved through mutually acceptable procedures.

All applicable provisions of the National Environmental Policy Act are being and will be fulfilled as the program proceeds.

Up to six repositories, from several hundred to several thousand feet below the earth's surface and located in various regions of the country, may be constructed to isolate the waste fission products of nuclear power reactors. Initial construction cost for each repository will be approximately \$200 million. The repository will be designed to receive either spent nuclear fuel rods removed from nuclear reactors or solidified waste resulting from the reprocessing of these fuel rods.

Geological formations

The appropriations from the Energy Research and Development Administration for fiscal year 1977 reflect a significant increase in funds for geologic investigations, going from \$5 million in fiscal year 1976 to approximately \$38 million for the current fiscal year.

Geologic formations to be studied and evaluated include: bedded salt in western and mid-western states; salt domes in the Gulf Coast states; shales, which are widely distributed throughout the nation; and a wide variety of granite and other crystalline rocks.

Although the sequence for developing a terminal storage facility may differ slightly from one geologic formation to another, the generalized sequence can be characterized as having six distinct steps as follows:

1. Identification of formations of interest.

2. Reconnaissance. The purpose of this activity is to collect all available data on those properties and characteristics of the formation needed for waste disposal considerations.

3. Area studies. The area studies are designed to develop new and specific data in the areas of interest. These studies include: core drilling to obtain adequate definition of the important subsurface characteristics of a formation; field geologic mapping; hydrologic studies; geophysical surveys; and other geologic studies.

4. Detailed confirmation studies. These studies are directed toward specific locations of perhaps 5-10 miles each. The investigations involve primarily the drilling and testing of four or more core holes at each location, plus the continuation of any specific geologic studies for which the previous results are inadequate to evaluate the suitability of the location.

5. In situ tests. These tests will range from simple electrical heaters placed in holes in exposed surface outcrops of a formation to extensive instrumented vault tests in excavations, especially constructed at the expected depth of the repository.

6. Repository operations. After adequate review, a repository site will be selected and a repository will be constructed which will meet licensing requirements of the Nuclear Regulatory Commission.

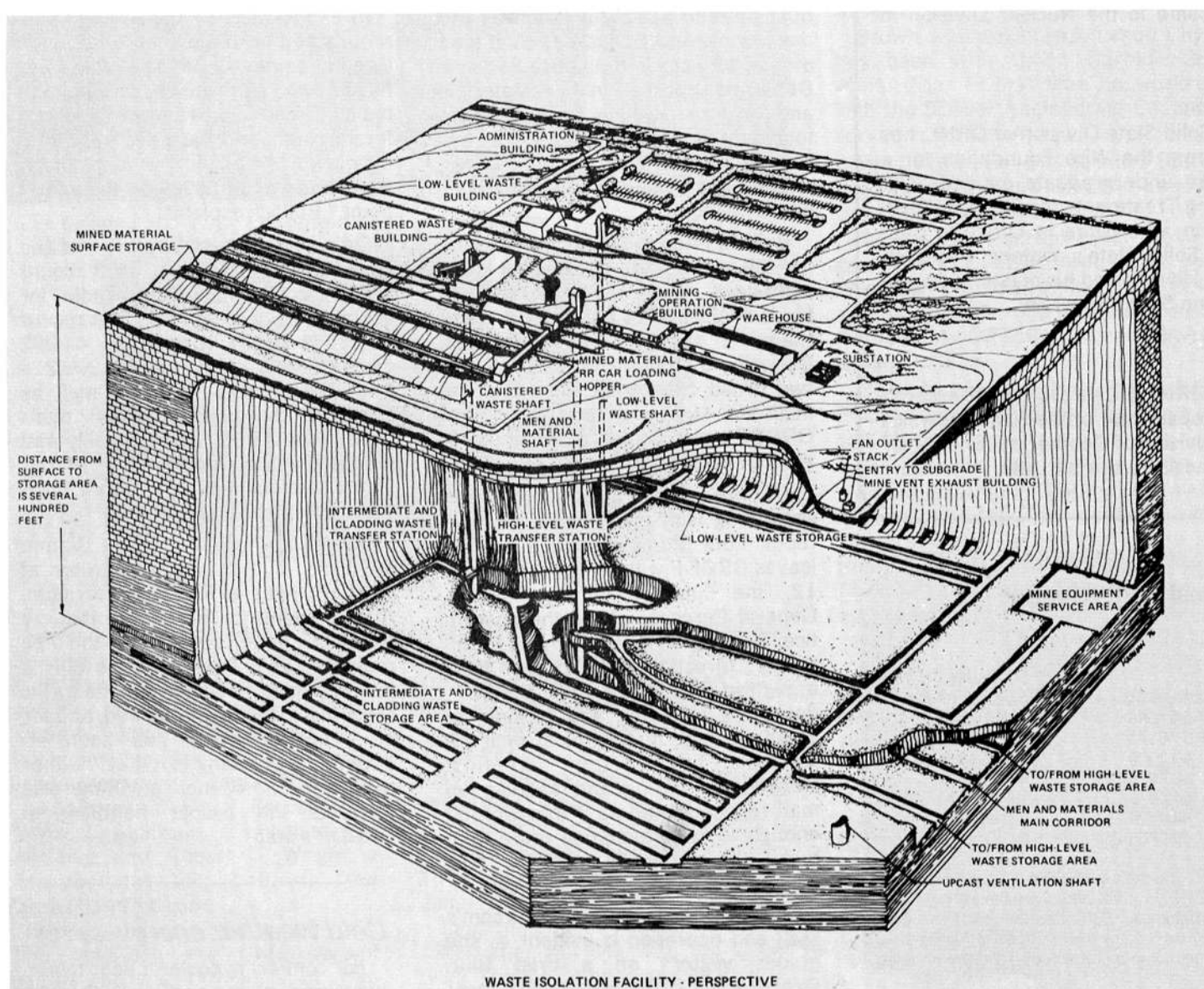
Considerable work has been completed in salt as a result of research over the last 15 years by ORNL. Because of this relatively extensive knowledge with respect to salt, it is anticipated that the first two repositories will be constructed in salt formations. Such plants would not begin receiving nuclear wastes until 1985 at the earliest.

If you use electric heating, consider a "heat pump" system. The heat pump uses outside air in both heating and cooling and can cut the use of electricity for heating by 60 percent or more.

'State of Lab' set for Tuesday

ORNL Director Herman Postma will present the annual State of the Laboratory address at 7:30 p.m. on Tuesday, December 14, in the Oak Ridge High School auditorium. Refreshments will be served in the school cafeteria following the address.

The public is invited to attend both the talk and the social hour.



Artist's concept of waste isolation facility.

retirements



Willie Chambers
Tool Grinding, Y-12
21 years service



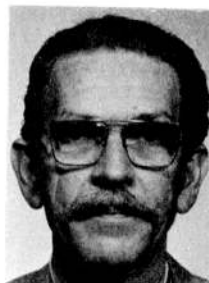
Alonzo Mills
Electrical and
Electronics, Y-12
24 years service



Avery F. Kendig
Buildings, Grounds and
Maintenance, Y-12
33 years service



John W. Shuey
Health Physics, ORNL
29 years service



Robert J. Legan
Purchasing
24 years service

Also:

Harry L. Bennett
Fabrication & Maintenance,
ORGDP
12 years service

Holiday weekends will be long ones

Thursday and Friday, December 23, 24 are official holidays for all Union Carbide employees . . . giving us four days to observe Christmas. Then, the following weekend is a long one, too. New Year's Day, the first official holiday for 1977, falls on Saturday this time around . . . so Friday, December 31, will also be an official day off.

No employee will be required to work unless his/her presence is required for plant security or continuous operations.

safety scoreboard

Time worked without a lost-time accident through December 2:

Paducah	65 Days	762,500 Man-Hours
ORGDP	55 Days	1,689,059 Man-Hours
Y-12 Plant	31 Days	806,000 Man-Hours
ORNL	77 Days	1,637,726 Man-Hours



wanted

Y-12 PLANT

JOIN CAR POOL from Powell, vicinity of Broadacres subdivision, to any portal, straight day. Don Griffin, plant phone 3-7739; home phone, Powell 947-1431.

RIDERS for van pool from Magnolia Avenue section, Knoxville, via Oak Ridge Highway, to any portal, straight day. H. A. Hanna, plant phone 3-7988; home phone Knoxville 522-0587.

RIDER from Crestwood Hills, Gulfwood and Gulf Park subdivisions, West Knoxville, to East or North Por-

tal, straight day. Kitty Hopper, plant phone 3-7772; home phone Knoxville 693-0655.

RIDE WANTED or will JOIN CAR POOL from Clinton to Central Portal, straight day, beginning January 1. John Moore, plant extension 3-5841; home 457-9493.

ORNL

RIDER from North Portal to Morristown/Jefferson City area or anywhere in between, 8-4:30 shift. James Gurganious, plant phone 3-6215; home phone 586-4317.

question box

If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

Weekly promotions

QUESTION: Can a division superintendent or department head promote a weekly salaried employee (or recommend such) from one job to another?

ANSWER: Yes. Supervision can recommend that a weekly salaried employee be promoted to a monthly salaried job or to another weekly salaried job that is not subject to posting under the Job Opportunity System.

Wives working for spouses

QUESTION: Could you please tell me what the Company's policy is for wives working for their husbands?

ANSWER: There is no formal company policy prohibiting a husband or wife from working for his or her spouse. Normally, however, we think it is best for a supervisor not to have a close relative under his/her supervision. There are, however, exceptions to this general rule where, for example, a married couple is involved in the same research project.

Inter-Division transfers

QUESTION: What is Nuclear Division policy on transferring to

another installation with the Division to a higher job? I am told that only lateral transfers are encouraged.

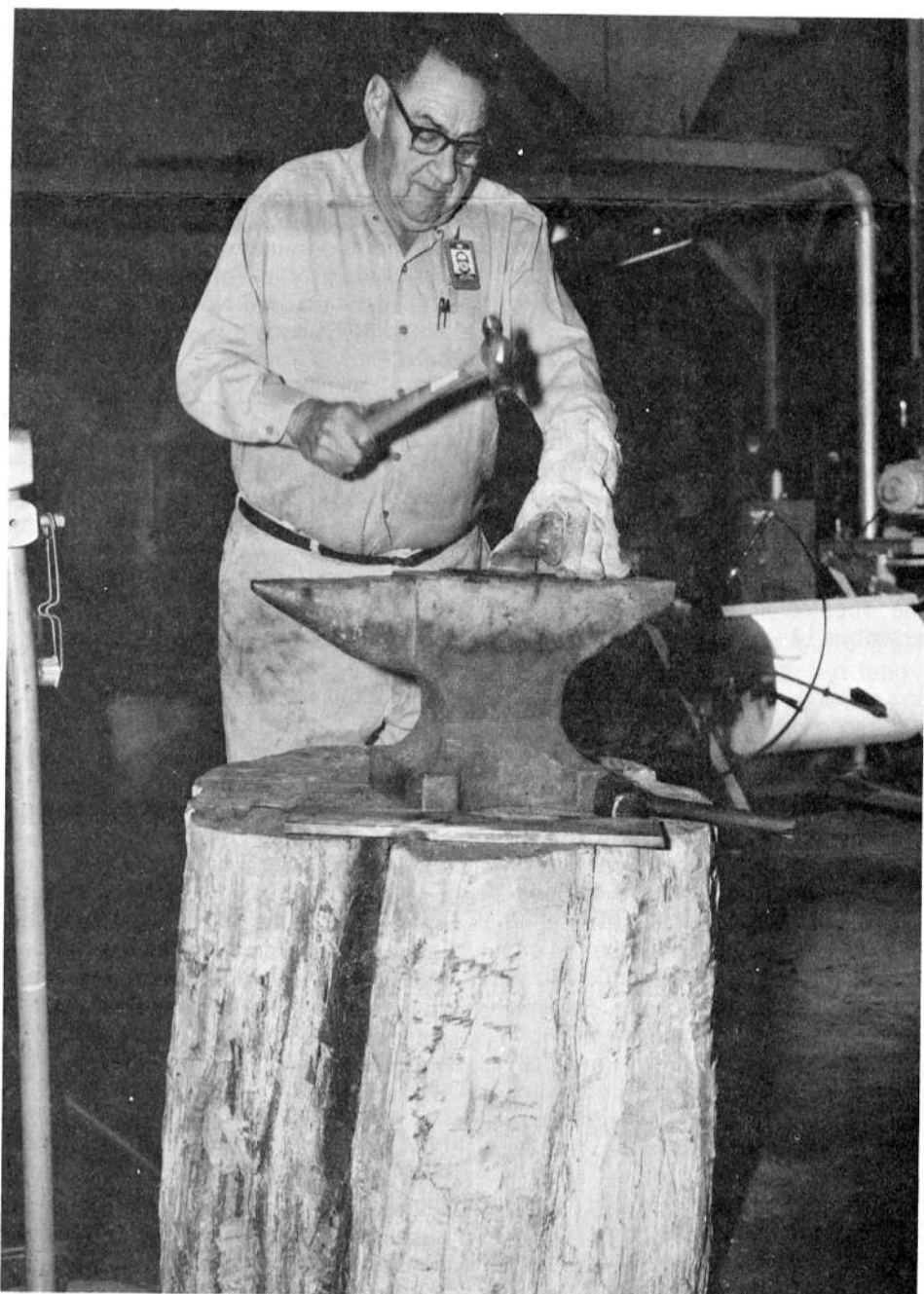
ANSWER: Normally, transfers from one location to another involve promotions. An exception to this general rule is when one location has excess personnel and another location has openings. In this instance, lateral transfers are arranged when an excess employee (whose work has been satisfactory) is qualified for the vacant job. In some instances even movements to lower rated jobs result if this is necessary to avoid laying off at one location and hiring at another.

patents granted

To George S. Hurst, Marvin G. Payne and Edward B. Wagner, all of ORNL, for "Resonance Ionization for Analytical Spectroscopy."

To Wayne F. Johnson, ORNL, for "Photomultiplier Tube Gain Regulating System."

To Casimer J. Borkowski, ORNL, for "High Temperature Furnace."



A BIT OF THE PAST is still present within ORNL's Metals and Ceramics Division. In the midst of all the modern equipment in the Metals Processing Lab, Senior Engineering Technologist Joe Hix still relies on the old hammer and anvil. The 140-pound black iron anvil is mounted on a 30-inch diameter white oak tree trunk that was purchased from a local sawmill. Our "blacksmith" uses the anvil daily for forming molybdenum covers around iridium metal that will go through the rolling process.



THE BOHANANS — Larry, Jeff, Jennifer and Patsy Bohanan, from left to right, are part of the star-studded variety show planned for Union Carbide children in the Oak Ridge area, December 22. Ticket application appears below.



Children's parties will highlight season in Paducah and Oak Ridge

Five parties in Oak Ridge and one in Paducah are set for children of all Union Carbide employees. The Paducah celebration will be held Saturday, December 11, at 9 a.m. at the Arcade Theater in Paducah. The five parties in Oak Ridge are set at the High School on Wednesday, December 22, at 9 and 11 a.m., and at 1, 3 and 5 p.m. (A corrected coupon for the Oak Ridge area is included in this issue of **Nuclear Division News**).

Larry and Patsy Bohanan, and their two children, Jeff and Jennifer, will

bring the magic of their puppetry to the Oak Ridge parties... as Oscar Bo and the Bright Side Kids will help celebrate the Christmas season. Larry, of Y-12's Graphic Arts, designs his own puppets and, with the help of his entire family, writes and plans the acts.

Austinini the Great, with his clogging act, is the highlight of the big show. Larry Austin is also a Y-12er and has performed his acts of magic for some time, adding a pair of Tennessee cloggers a couple of years ago.

With the bowling leagues...

Carbide Family Mixed

The Oops team keeps its top rung standings in the Carbide Family Mixed League, two points ahead of the Odd Balls and Challengers. Jack Beams, 623, and Tillie Plaza, 541, were high bowlers late in November.

ORGDP

The All Steers inch out in front of the City Slickers in the Tuesday Night League. Louie Finley rolled series of 587, 659 recently to spark the

alleymen. G. T. McIntyre's singles of 241, 273 were tops recently, too.

The Mix Ups keep a scant lead in the Wednesday Night League, inches from the Hi-Rollers and Demons. Eddie Leach rolled a 250 game, a 681 series recently, to spark his third-place Demons.

The Payoffs have a scant one and one-half point lead in the ORGDP Women's League, as the Woodbees move up with a big win over the Up-towners. Mary Kincaid rolled scratch highs recently and Marie Hickson's 490, 610 series was high.

Y-12 Plant

The C League has the Rounders barely in front of the Mini-Strikers, as the Badgers and Kingpins breathe close by. Jules Kendra's 713 handicap series still holds, and George Cantrell's single of 282 is still league high.

The Ridgers and Splinters tie for lead in the Classic race, with the Has Beens and Mets tied for second place.

Eddie Edwards put a 729 handicap series on the boards, and Bill Sise perches on top with a 282 single.

ORNL

The ORNL Ladies' League sees the Mousechasers on top, a good 11 points away from the HP-ettes. Dot Gaddis holds high singles and high series thus far.

The C League puts the Damagers, miles away from the Alley Rads, as R. Smith, rolling with the Engineers, rolled a 245 single game.

The A League says the Ten Pins are seven and one-half out in front on the ORAU team. The Zots' Gray rolled a 652 series in mid-November as the Limits' McCulloch put a 243 single up there.

Contract awarded for OWI building

ERDA has awarded a \$459,104 contract to a Knoxville firm for construction of an office building at the Y-12 Plant to serve as headquarters for the Office of Waste Isolation (OWI).

The contract was awarded on a bid basis to Construction Management, Inc. Under the contract the firm will construct a two-story, steel frame, brick veneer building containing some 16,000 square feet of space.

Under a contract with ERDA, the Nuclear Division is responsible for managing the technical aspects of a national program to find suitable technical and environmental approaches for the storage of commercial nuclear power reactor radioactive wastes in geologic formations.

Physical fitness classes

The Recreation Department is still pushing its new physical fitness classes, set to commence January 3. They will be held each Monday, 7 and 9:30 p.m.; and again on Wednesday, 6:30 and 9 p.m. at the Norwood Junior High School near Oliver Springs.

There's a lot of activity. More details may be obtained from the Recreation Department, extension 3-5833.

Application for Tickets To Christmas Parties

FOR CHILDREN OF OAK RIDGE UNION CARBIDE EMPLOYEES
(AGES 2-10 ONLY)

WEDNESDAY, DECEMBER 22

Plant

Employee's Name

Home Address

Plant Address

Number of Tickets (Children)

Number of Tickets (Adults)

—CHECK TIME PREFERRED—

Wednesday, December 22 9 A.M. 11 A.M. 1 P.M.
Only 3 P.M. 5 P.M.

Please check first and second choice (write in space "1" or "2") as only a limited number of tickets will be issued for each party. Preference will be given early applicants and if tickets for first choice are exhausted, tickets for second choice will be issued.

Return this form, properly and completely filled in, to the Carbide Recreation Office, Building 9711-5, Stop 1, Y-12 Plant. Please apply for tickets before December 17. The required number of tickets will then be mailed to parents at their home or plant addresses.

Volleyball leagues...

Initial standings in the three volleyball leagues are shown below, as the race tightens up.

NUCLEAR LEAGUE

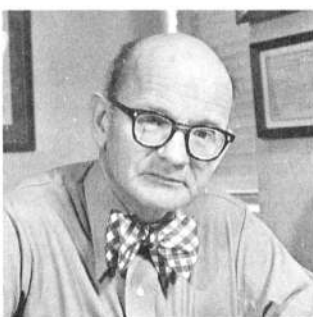
	WON	LOST
Over-The-Hill Gang	10	2
Pogo's	12	3
Blue Team	12	3
Artie's Army	10	5
Rad-Fizz	10	5
The Skinks	9	6
Ball Busters	7	8
Maxwell Demons	7	8
C-Shift Reds	4	8
Fed's	3	12
The Abends	2	13
The Kilos	1	14

ATOMIC LEAGUE

Diggers No. 1	12	3
Taxi Squad	9	3
Diggers No. 2	11	4
Quarks	6	6
Old Men	3	12
Ecomen	1	14

CARBON LEAGUE

Gauss House Gang	10	2
Group	7	5
Volares	6	6
Half A Chance	4	8
Killer Bees	3	9



medicine chest

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

QUESTION: Although the problem of high blood pressure is often discussed in medical columns, we don't hear much about the opposite problem. My blood pressure is usually about 95/55, and much of the time I feel lethargic or light-headed. Is there any help for this condition, or must one just live with it?

ANSWER: This concern about low blood pressure may have originated from a side comment a physician or nurse made when your pressure was measured. Years ago when physicians couldn't find any other reason for their patients' complaints, they would blame them on "low blood pressure." Another possible origin may have been a rejection as a blood donor because of low blood pressure. Those who fail assume there must be something "bad" wrong with them.

With these experiences, it is not surprising that people assume that "low" blood pressure is always pathological. Unfortunately, in most cases these people should have been told that their pressure was "low normal" and probably of no significance. Of course, if certain other symptoms or signs were present, careful investigation might have been prudent advice.

Five factors in blood pressure

Before I comment on some of these pathological causes of low blood pressure, the reader needs to understand a few fundamentals of physiology. In general, the blood pressure level is the result of the interaction of five factors: the pumping action of the heart, the resistance in the arteries, the quantity of blood in the arterial system, the viscosity of the blood and the elasticity of the arterial walls.

When the heart pumps blood into the arterial system faster or harder than the system can accommodate it, the pressure rises. A good example is the rise in pressure which occurs with exercise. When the heart pumps too slowly, as for example in complete heart block, the pressure falls and fainting may occur.

Arteries are flexible tubes equipped with tiny muscles which regulate their diameter. The principal regulation occurs in the tiny arteries called arterioles in the various organs in the abdomen. If these blood vessels are fully dilated rapidly, they can accommodate all the blood in the body and the blood pressure will fall to zero. This is what happens in severe

anaphylactoid allergic reactions; for example, following a bee sting in a hypersensitive individual. If, on the other hand, these and other arteries are kept tightly "squeezed down" to a small diameter, the blood pressure will rise to an extremely high level. A good example is a toxemia of pregnancy.

The quantity of blood in the circulatory system is obviously important. Individuals who manufacture too much blood (a condition called polycythemia) often have high blood pressure. Their systems are simply overloaded. When a person rapidly loses a lot of blood during a hemorrhage, the pressure may fall to shock levels.

Factors balance in healthy persons

As everyone knows, water is much easier than honey to pump through a small tube. When a patient is anemic and the blood is "thin," the blood pressure may fall. When it is "thick" because of too many red blood cells, the pressure may rise. Changes in the chemical composition of the blood due to medicines or diseases may alter the viscosity. Also, carbon dioxide increases viscosity and oxygen lowers it.

Warm blood, which can be caused by exercise and fevers, flows more freely than cold. Cold and inactivity cool the blood and may have a modest effect on pressure.

The larger vessel walls are elastic when a person is young, but tend to become more rigid due to arteriosclerosis as one gets old. The result is a higher **systolic** pressure, the pressure when the heart beats, and sometimes a lower **diastolic** pressure, the pressure between the beats. The latter is due to the elastic recoil of the arteries and provides a continuous propulsive force to push the blood through the tiny arteries and capillaries. Often the tiny arteries also become smaller in diameter and more rigid with age, so there is more resistance to flow and the diastolic pressure also rises.

In a healthy normal person, all these factors are neatly balanced and the systolic pressure is usually between about 100-150 mm and the diastolic 70-90 mm. Many vibrantly healthy young people, especially women, have systolic pressures below 100.

Associated symptoms

Pathologically low blood pressure—hypotension—is usually associated with other symptoms. Frequent fainting, especially when standing upright after sitting or lying



PAS DE TROIS—Graceful ballerinas, daughters of Union Carbide employees, will be part of the Oak Ridge Civic Ballet Association's production of "Giselle," to be presented December 17, 18 at 8:15 p.m., and again on December 19 at 3:15 p.m. at the Oak Ridge High School Auditorium. Information and group reservations may be obtained from Mrs. Stephen Kaplan, 921 West Outer Drive, Oak Ridge.

Transportation energy use data available in new publication

A compilation of available statistical data on energy use in the transportation sector of the U.S. economy has been published by ORNL.

The first edition of the new reference, "Transportation Energy Con-

servation Data Book," was prepared by the Regional and Urban Studies Section for ERDA's Transportation Energy Conservation Division.

The 263-page volume contains statistical information on the major transportation modes, on overall energy use in the transportation sector, and on the energy distribution among transportation modes.

Data on past, present and projected energy use and conservation in the transportation sector are presented under six chapter headings: Characteristics of Transportation Modes; Energy Characteristics, including energy consumption by source, sector, and energy intensiveness; Conservation Alternatives; Government Impacts, including expenditures, regulations and research; Energy Supply, including domestic petroleum production, prices and projections; and Transportation Demand, including population characteristics and economic determinations.

Future editions of the data book are planned to include data at the sub-national level on energy use and conservation and more information on nonhighway transportation modes. Four supplements are scheduled during fiscal year 1977. The first of these, ORNL-5232, will be released later this year.

Further information may be obtained by contacting Andrew Loebel, Project Leader, extension 3-0311.

Y-12 promotions

(Continued from page 2)

He lives at Route 1, Louisville. He has a son, Steven.

Lovitt, a native of Williamsburg, Ky., has been at Y-12 for 12 years. He worked with the American Can Company prior to joining Union Carbide.

The Lovitts live at 104 Middlebury Road, Oak Ridge. Mrs. Lovitt is the former Margaret L. Hicks, and they have a son, Charles.

Martin, who was born in Rockwood, spent more than two years in the U.S. Navy before joining Union Carbide in 1947.

He and his wife, the former Betty Owings, live at Route 2, Rockwood. They have two children, James R. II, an accountant at Union Carbide, and Bob.

McIlwain, who was born in Copeland, Ala., came with Union Carbide in 1953. Before coming here, he worked in the Ingels Shipyard, and served in the U.S. Merchant Marines.

Mrs. McIlwain is the former Bernice Taylor, and the couple lives at 112 Parma Road, Oak Ridge. They have two sons, Robert L. Jr. and William A.

Wright, a native of Knoxville, joined Union Carbide in 1969, as a sheet metalworker.

He lives at Route 5, Bob Carnes Lane, Knoxville, with his wife, the former Charlotte McBee, with their two daughters, Kathy and Deborah.

division deaths

(Continued from page 2)

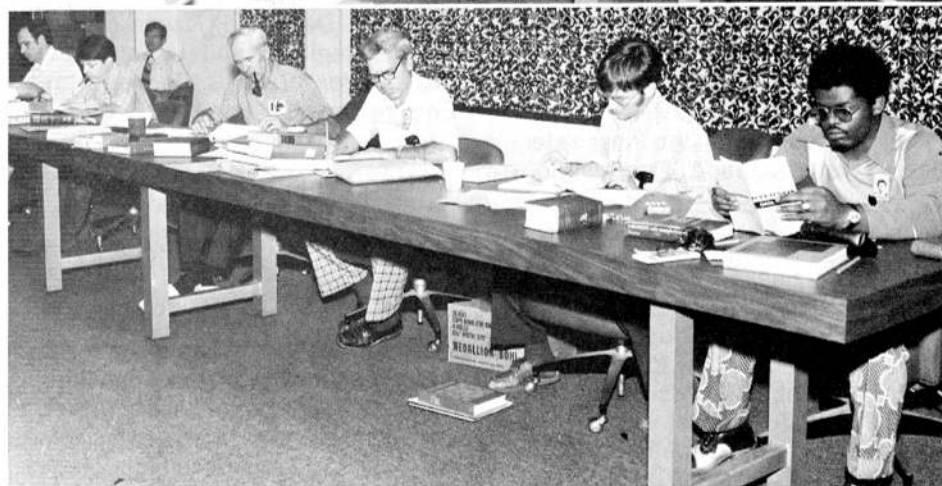
William and Warren Stephenson; and a sister, Nellie Lee.

Funeral services were held at the Pleasant Hill Baptist Church, Dutch Valley, with burial in the church cemetery.

The family has requested that memorials should be made to the Pleasant Hill Baptist Church.

next issue ...

The next issue will be dated December 23. The deadline is December 14.



ICET CERTIFICATION TESTS—In an effort by draftsmen at the Paducah Plant to be certified as Engineering Technicians, the above employees participated in a test recently. Participating in the examination were Ronald D. Smith, Charles Grassham Jr., Ed W. Brazzell, R.B. "Jack" Piercy, Billie J. Stokes, Jonathan E. Hines, Chester F. Cummings, Rodney D. Martin, Donald L. Vallentine, Jannet Allen, Thomas N. Herrold, H. Alan Hook, Mickey D. Crutcher, Joe T. King, Philip B. Paschal and William W. Rudolph. Administering the exam were Robert L. Echols and W.D. "Bud" Brickeen, certified professional engineers.

anniversaries

ORNL

30 Years

Frank A. Kocur, Finance and Materials Division; John C. Martin, Plant and Equipment Division; Richard E. Mapes, Finance and Materials Division; Walter J. Mayott, Plant and Equipment Division; Glenn M. Way, Operations Division; Robert P. Ward, Health Physics Division; Harold W. Watson, Employee Relations Division; Charles F. Foust, Finance and Materials Division; and Woodrow D. Cottrell, Health Physics Division.

25 Years

Margaret M. Fine, C. L. Scaff, Charles E. Shubert, Sue H. Prestwood, Herbert H. Bradford Jr., Cyril G. Lawson, Felix J. Henry and Frances W. Hurley.

20 Years

James H. Sherrod, Maitland A. Baker, Ronald L. Senn, John T. Houston, Frank M. Barnes, Ralph D. Goodman, Earl Massengill, Edward P. Trowbridge, Bill R. Chilcoat, Esther H. Thompson, Patsy C. Keeble, Robert M. Holmes, Bon S. McCown and William M. Skeens.

GENERAL STAFF

30 Years

Ruby A. Swafford, Purchasing Division

25 Years

Newell L. Lane and Fred E. Richardson.

20 Years

Donald A. Gardiner.

ORGDP

30 Years

Marion B. Livesay, U-235 Separation Department.

25 Years

Wayne M. Kyte, Faye B. Duncan, George L. Lowe, Chester E. Brown, Robert E. Lampton, Bill S. Denton, Cedric S. Patton, Elmer C. Hurst and Clyde B. Smith.

20 Years

Robert E. Seyfried, Paul D. Baker and Elizabeth A. Huntsman.

Y-12 PLANT

30 Years

James J. Ward, Building Services; William R. McGill, Plant Protection Department; and Paul B. Proffitt, Garage and Heavy Equipment Department.

25 Years

Junious M. Turley, Troy W. Baker, Rudolph Payne, Ruby A. Viator and Clara C. Hall.

20 Years

James R. Moyer and Alan V. Davis.

PADUCAH

25 Years

James R. Reese, George W. Hollowell, Lynn B. Yates, Shirley M. Vance, James F. Warren, Paul Rowland, Morris F. Shelton, Ben D. Fuqua, Jesse B. Guffy, Guy N. Riley, Thomas W. Coates, George A. Vinson, Dennis W. Woods, William G. Campbell and Robert G. Little.

20 Years

Thomas W. Farthing.

Nuclear Division News

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